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NAVDENCEN SOUTHWEST INSTRUCTION 6600.10C CHANGE TRANSMITTAL 2

Subj: INFECTION CONTROL PROGRAM

Encl: (1) Revised Contents pages *i* and *ii*
(2) Revised Chapter 3, pages 3-1, 3-2, and 3-3
(3) New Chapter 7, pages 7-1, 7-2, 7-3, and 7-4

1. Purpose

a. To revise reporting and tracking criteria for odontogenic infections (Chapter 3).

b. To establish procedures for maintaining a high level of dental unit waterline quality (Chapter 7).

2. Actions

a. Remove the old Contents pages and replace with enclosure (1).

b. Remove the old Chapter 3 and replace with new enclosure (2).

c. Add new Chapter 7, enclosure (3).

d. Annotate the title of the instruction with CH-2 in the upper right hand corner of the basic instruction, date, and file.

D. D. WOOFTER

Dist:
List 1, Case 1, 2

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CHAPTER 3
ODONTOGENIC INFECTION

1. Guidelines for Post-operative Care of the Surgical Patient

a. All patients undergoing oral surgical/invasive procedures are to receive verbal and written instructions for post-operative care, including where to return if they experience a problem.

b. All patients undergoing oral surgical/invasive procedures will receive a post operative evaluation appointment with the exception of very minor surgical cases. Post-operative evaluation appointments will be made for all medically comprised patients (e.g., uncontrolled "brittle" diabetic, steroid dependent, immuno-depressed.)

2. Guidelines for the Management of Patients with Odontogenic Infections

a. All patients presenting with oral infections, meeting any of the criteria listed below will have the condition, appropriate treatment, and follow-up documented in their dental record and in an Odontogenic Infection Tracking Logbook. All infections must be tracked until complete resolution.

(1) Infection or swelling extending beyond the alveolar process or vestibular space.

(2) Fever, evidence of lymphadenopathy, or other systemic involvement (e.g., dysphagia, trismus, compromised airway.)

(3) A localized infection showing no signs of improvement within 24-28 hours following the initiation of treatment.

(4) Any condition, which in the opinion of the attending dental officer, warrants close monitoring.

b. An Odotogenic Infection Tracking Logbook will be used to report and monitor infections. This will be located in the Oral Surgery spaces at all clinics. At clinics where an emergency duty section is established, the logbook will be located in Oral Surgery during normal working hours and moved into the emergency duty operatory for the duty section. The initial treatment and all follow-up treatments must be recorded in this logbook and patient's record until the infection is resolved. The attending dental officer is responsible for proper follow-up referrals, or managing the infection to completion. Watchstanders unable to follow the care are responsible for appropriate referrals. Every attempt must be made not to lose a patient to follow-up. Accuracy and legibility of the patient data treatment notes are essential to tracking these cases. A tracking mechanism must be established for patients referred to another treatment

facility. If efforts made to contact a patient are unsuccessful and a patient is lost to follow-up, this must be documented in the logbook. The branch Infection Control Officer will review the log daily to make sure patients are being followed-up and for possible trends, including those that could indicate nosocomial infections, and report the findings to the ECODS.

c. When the logbook is open, the initial entry is to be written on the left side of the page starting with all of the patient's identifying information. Any additional entries are to be continued on that page and then onto the right pate when the left side is full. No other case should be written on those two pages. Unresolved cases will be tagged with red tape on the left page. All closed cases will be indicated by covering the red tape with the white tape.

d. All outpatients under treatment for unresolved odontogenic and post-surgical infections, satisfying the following criteria, require consultation to an oral/maxillofacial surgeon or to a medical officer when an oral/maxillofacial surgeon is not available.

(1) Extension beyond the alveolar process or vestibular space; and/or

(2) Evidence of fever, lymphadenopathy, or other systemic involvement; and

(3) Showing no evidence of improvement within 24-48 hours following the initiation of treatment for the infection.

(4) Any condition which warrants close monitoring.

e. All patients referred to a higher level of care (i.e., hospital admission, oral surgeon at another facility) will be reported to the Command Infection Control Officer via form NDCSW 6600/10, Infection Report Chronology Treatment, found in this instruction.

3. SOAP Format for Documenting Treatment of Post-operative Infections

a. The following are aspects of care and evaluation that must be addressed in the dental record as soon as you are aware that the patient is developing an infection.

(1) S – (SUBJECTIVE) Determine the chief complaint, and then quote the individual (i.e., "It hurts to swallow.") Record the symptoms as described by the patient, and whether they are improving or worsening with time. Document the absence or presence of dysphagia and/or respiratory distress.

(2) O – (OBJECTIVE) Record the size and character of any swelling, remarking on presence or absence of fluctuance, induration, tenderness, and inflammation. The location of the swelling is extremely important in identifying which fascial spaces are involved. Measure the amount of trismus (if present.)

(a) Examine the neck and note the presence (and location) or absence of lymphadenopathy.

(b) Record whether or not purulence and drainage is present, its amount, odor, and color.

(c) Record the patient's temperature, other vital signs and whether or not the patient has been experiencing chills and fevers.

(d) Note the quality of the airway. This is absolutely essential in any evaluation of head and neck infection. Evaluate the pharynx, note whether the uvula is midline and if there is any swelling of the pharyngeal walls.

(e) Remark on the patient's general condition. Is he/she septic and lethargic or does he/she appear alert and animate.

(f) Evaluate the patient's past medical history and note any contributing details such as systemic illness, medications, allergies, etc.

(3) A – (ASSESSMENT) Now, take all of the above signs and symptoms and record your evaluation of the patient's condition. Address specifically which fascial space is involved. Whether the patient's condition is improving or worsening, and whether the airway is secure. Record whether treatment to this point has been effective or ineffective in your estimation.

(4) P – (PLAN) Write down your plan for treatment of the patient. This should include antibiotic doses, incision and drainage if appropriate, culture and sensitivity testing (C&S), and Gram Stain. Also, include any consultations you seek from other specialties.

b. This patient must be seen daily! Make sure that you record that the patient was told to return daily. If the patient will be evaluated over the weekend, record how that will be done. If the Duty Dental Officer will see the patient on the weekend, apprise him/her of the patient's condition. Ideally, the provider that will see the patient on the weekend will be able to establish a baseline by seeing the patient before the weekend. Record this in the chart.

c. Should the patient be referred to the hospital for care, send a consult (SF-513 with the patient, list treatment and responses to treatment up to the point of referral. Call the Oral Surgery Department at the hospital and advise them of the patient's condition and ensure the patient has transportation, either privately owned vehicle (POV), ambulance, or dental van.

d. This format should be used every time the patient is seen for treatment. With dental infections, it is good practice and in the best interest of the patient to document everything.

Chapter 7
DENTAL UNIT WATER QUALITY

1. Background

a. In recent months, the national media have drawn attention to an issue of concern in the Dental Infection Control community. The quality of the water delivered by dental unit waterlines. Numerous studies have demonstrated that the concentration of colony forming units (CFUs) of microorganisms found in dental unit waterlines greatly exceeds the 500 CFUs per ml which is acceptable for drinking water. The primary source for this colonization is the public water system. The concentration of these microorganisms increases dramatically as the diameter of the tubing carrying the water decreases (and as the surface area available for the formation of biofilms increases).

b. The American Dental Association has set a goal for the year 2000 that dental unit waterlines have concentrations of microorganisms no greater than 200 CFUs per ml. This is the same high standard as is required for dialysate fluid. Multiple studies have demonstrated that unit waterlines contain levels of bacteria, which greatly exceed 100,000 CFUs per ml. Although most of the microorganisms in the biofilm are non-pathogenic, certain pathogens such as Legionella, Psuedomonas and non-tuberculous Mycobacteria have been identified as well.

c. There are several commercially available preparations for improving the quality of dental unit water, consisting of independent water reservoirs, chemical treatment regimens. daily draining and air purging regimens, and point of use filters. Preliminary data suggest that a combination of these strategies is required to control biofilm formation and achieve the desired level of water quality. There are, however, insufficient data to establish the effectiveness of all the methods available for waterline treatment. During the interim technology development, testing and FDA approval, there are many steps that Navy Dentistry must take to ensure the quality of dental unit water meets acceptable standards for use.

2. Risks

a. Despite the documented high levels of organisms found in dental unit water, no outbreaks of disease and few clinical case reports have been associated with dental waterline contamination. But, untreated dental unit water is, at best, unsanitary and undrinkable by public water standards. There are at least two studies demonstrating that an occupational exposure risk may exist for dental health care workers. A ten-fold increase in Legionella antibody titer has been found in dental health care workers, as compared to the general population. Exposing patients or dental personnel to water of poor microbial quality is inconsistent with universally accepted principles of infection control and the high standards of the Navy dental Corps.

3. Action. Given this information, and the heightened public awareness and concern, it is imperative that every facility Dental Infection Control Officer understand and ensure total compliance with the following current recommendations and guidelines regarding dental unit waterline treatment:

a. Surgical Procedures. Only sterile solutions may be used for surgical procedures involving the cutting of bone. If an independent water reservoir is used during surgical procedures, the device must deliver sterile water.

b. Flushing. All dental unit waterlines will be flushed for one minute each morning and for 30 seconds between patients. The flushing of lines has no direct effect on adherent biofilms, but will eliminate any orally retracted fluids and may transiently reduce the concentration of microbes.

c. Anti-retraction valves. Anti-retraction valve must be installed and maintained on all dental units.

d. Do not heat dental unit water. Warming the water may encourage biofilm growth and select organisms preadapted to live in the human host.

e. Daily draining and air purging. All waterlines will be completely drained and air-dried at the end of each day. This procedure will discourage the regrowth of microorganisms.

f. Chemical treatment of independent water reservoir systems. All dental units must have independent reservoir systems installed and properly maintained. Numerous studies have demonstrated the use of reservoir (either ordered with new equipment or retrofitted) can virtually eliminate bacterial and fungal contamination when combined with a routine chemical disinfection protocol. The Dental Unit Waterline Treatment Protocol on page 7-4 will be used for all dental units. Only CLEAN water will be used in the reservoir systems. CLEAN water is defined as tap water that has been treated with one drop of 5.25% bleach per 750 mil of water.

g. Monitoring. Periodic water quality monitoring must be performed to assess the effectiveness of the protocol in use and to identify technique errors or noncompliance of staff.

h. Education. OSHA requires that all dental health care workers be educated regarding microbial contamination and biofilm formation in dental unit waterlines. The need for high quality water for use during patient treatment must be emphasized.

4. Tasking

a. Branch Infection Control Officers (BICO) working with the Command Infection Control Officer are responsible for training all personnel regarding microbial contamination and biofilm formation in dental unit waterlines and in the protocol for treatment of the waterlines. They are also responsible for periodic water quality monitoring, in accordance with paragraph 5, to assess the effectiveness of the protocol and to identify technique errors or noncompliance of staff.

5. Waterline Testing

a. All dental units with self-contained water units will be tested for the level of bacterial contamination quarterly. Any unit with greater than 200 CFUs will receive the "Field Day Treatment" and retested the following week. A second test failure will require intervention by the BICO (i.e., close supervision of the treatment protocol). A third test failure will result in the unit being placed out of service until the reasons for failure are determined. Test results will be recorded and reported to the Command Infection Control Officer on the quarterly Infection Control Report. Waterline testing may be done using any of the commercially available tests.

DENTAL UNIT WATERLINE TREATMENT PROTOCOL

Weekly "Field Day" Treatment

1. Prepare fresh 1:10 bleach solution (1 part household bleach to 9 parts water). Ensure that the container is properly labeled. Wear eye protection when handling the solution.

2. Remove water reservoir and discard residual water.

3. Replace empty water reservoir and air purge all water lines.

4. Fill water reservoir to the top with 1:10 bleach solution.

5. Run 1:10 bleach solution through ALL lines capable of carrying water.

6. Allow bleach solution to stand in lines for 10 minutes.

7. Remove the water reservoir and discard bleach. (It is acceptable to top up and use to treat other units. Discard in sink and rinse reservoir with copious amounts of water when done.)

8. Replace empty water reservoir and air purge to remove residual bleach solution.

9. Refill reservoir with CLEAN water. Flush ALL lines with the ENTIRE VOLUME of the full reservoir.

a. CLEAN water is defined as tap water that has been treated with one drop of 5.25% bleach per 750 ml of water. Most dental unit reservoirs hold 750 ml.

10. Air purge and leave all waterlines dry until next clinical use. Refill only with CLEAN water.

11. Avoid touching the water tube with hands to decease the possibility of contamination of the system with skin or enteric bacteria.

12. The 1:10 bleach solution has the potential to damage dental unit components if not used in strict accordance with this protocol. The solution must not be allowed to stand in the lines for longer than 10 minutes and must be immediately air purged and flushed with CLEAN water.

Daily Waterline Treatment

1. Always use CLEAN water in the reservoirs.

2. Air purge all lines at the end of each day. Always leave waterlines dry overnight. Leave empty reservoir attached to unit.